

# RED-BLUE CONNECTOR

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Update to 2010 Feasibility Study: Population/ Land Use

September 17, 2018

# Purpose and Key Issues

- **Presentation Purpose:** Provide the FMCB with a summary of the demographics/land use analysis from the Red-Blue Connector reassessment.
- Analysis focused on growth and changes in population trends since the 2010 DEIR
- **Additional analysis explored:**
  - Major current or projected development projects in the Red and Blue Line corridors
  - Changes in Logan Airport activity since 2010
  - Existing MBTA trips using both the Red and Blue Lines

# Purpose of Red-Blue Connector Reassessment Study

- Review the assumptions of the 2010 DEIR related to the Purpose and Need and ridership and identify changes in assumptions and/or conditions.
- Review alternative tunnel construction methods to the TBM method presented in the DEIR and establish cost efficiencies to alternative methods of construction.

# Population and Airport Passenger Growth since 2010

Each relevant area has experienced growth at a more rapid rate since the DEIR.

Population	2000 Data	2010 Data	Growth (2000 to 2010)	2016 Data	Growth (2010 to 2016)	Growth (2000 to 2016)
Cambridge Street Area (Boston)	17,747	19,318	+8.9%	20,835	+7.9%	+17.4%
East Boston	38,413	40,508	+5.5%	46,208	+14.1%	+20.3%
Logan Airport (Passengers)	27.7 million	27.4 million	-.01%	36.2 million	+32.2%	+30.6%
Cambridge	101,355	103,506	+2.1%	108,757	+5.1%	+7.3%
Revere	47,283	50,008	+5.8%	53,165	+6.3%	+12.4%

Source: U.S. Census and MassPort

# Population Projections

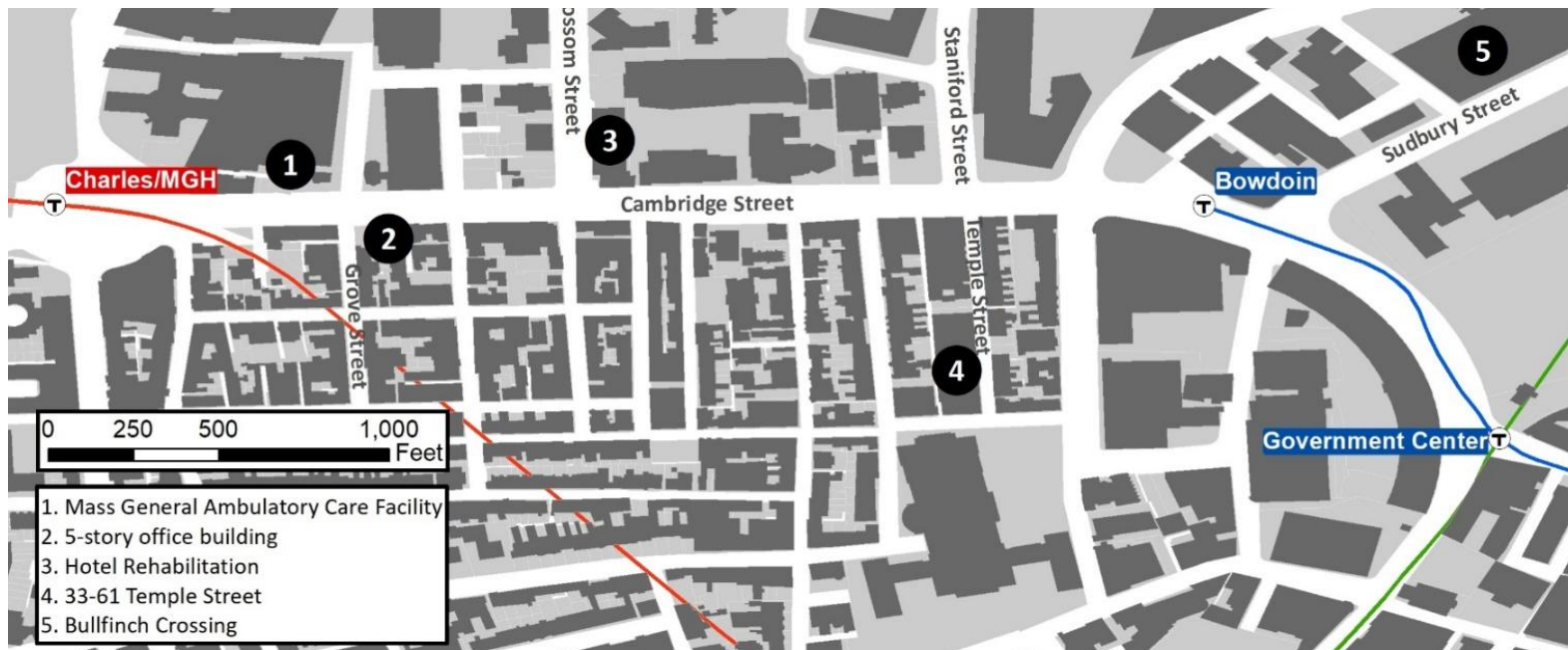
By 2016, population has already met 2030 projections in East Boston and approaching in Cambridge.

Population	2000 Actual*	2010 Actual*	2014 MAPC Projections		2016 Actual*
			MAPC 2030 (Status Quo)	MAPC 2030 (Stronger Region)	
East Boston	38,413	40,508	43,609	46,530	46,208
Cambridge	101,355	103,506	110,623	118,625	108,757
Revere	47,283	50,008	63,028	66,737	53,165

\*Source: U.S. Census

# Development since 2010: Cambridge Street

Several residential and commercial development projects have been completed or are under construction in the construction corridor.

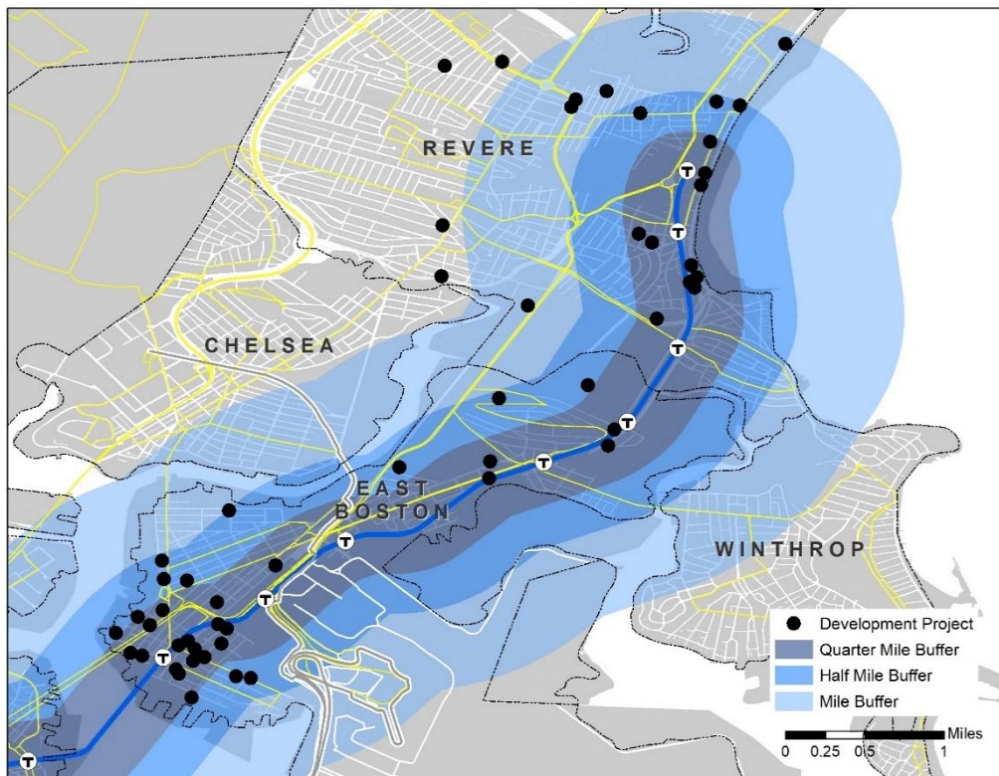


Source: MAPC MassBuilds Database

# Proposed/Constructed Development since 2010: East Boston/Revere

Approximately 2,700 residential units are under construction or proposed in East Boston.\*

Revere has more than 15 projects completed or in development within ½ mile of the Blue Line.



\* This figure accounts for over 2.5 million square feet of development and excludes Suffolk Downs. On average, these projects propose approximately 0.85 parking spots per 1,000 square feet of residential development, which also averages to 0.85 parking spots per unit.

Source: MAPC MassBuilds Database

# Major Future Development: Suffolk Downs

- Multi-phased proposal to build 11 million square feet of residential, office, and retail/hotel buildings across 109 acres in Boston and Revere
- Developer is considering different amounts of parking on the Boston and Revere sides. Initial considerations for 1.14 parking spaces per residential unit in Revere
- Phase 1 was approved in February of 2018 and includes just over 500,000 square feet of office space

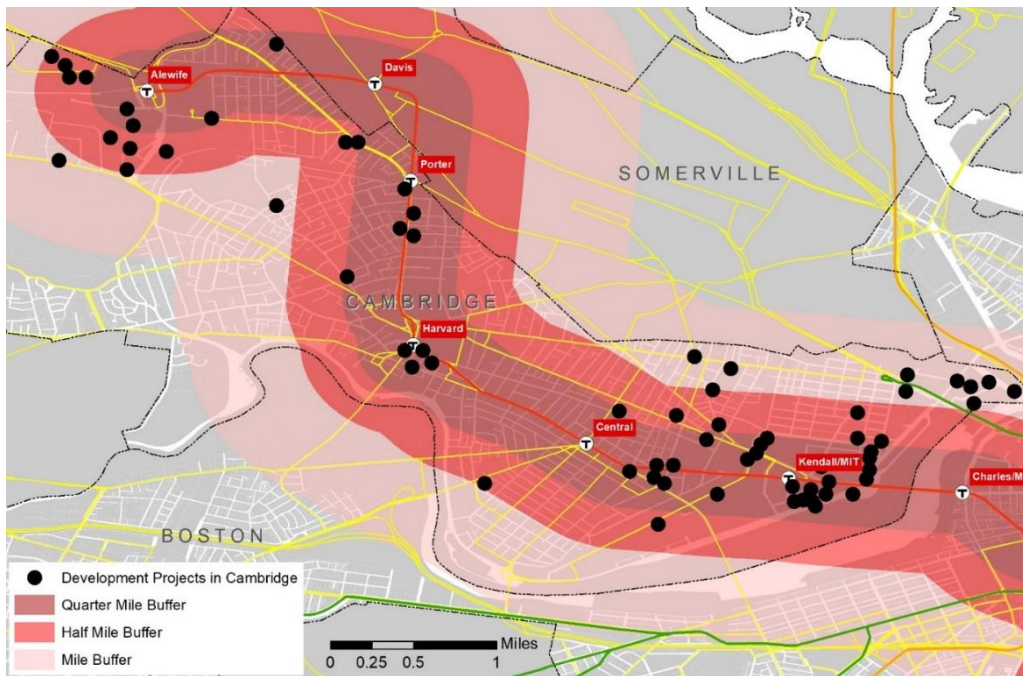
## Considerations:

- Ultimate development program (housing vs commercial) could impact need for Red Blue Connector
- Development parking ratios (here and in other development sites) may impact overall demand for transit



# Development Proposed/Constructed since 2010: Cambridge

Cambridge continues to see steady development, 75 current projects include over 5,600 residential units, over 4 million square feet of office space and institutional space.\*



\*Over half of these projects are within  $\frac{1}{4}$  mile of the Red Line

Source: MAPC MassBuilds Database

# Blue Line Trips to and from Logan Airport

Airport passenger increases are not correlated with proportional increases in Blue Line ridership at Airport Station.

	2010	2016	Change
Passengers at Logan	27.4 million	36.2 million	+32.2%
Blue Line to/from Logan (%)	4.0%	3.1%	-0.9%
Estimated Riders using Blue Line to/from Logan*	1.04 million	1.07 million	+2.5%

\*Estimate is based on 95% of the total passengers at Logan, as MassPort estimates that 5% of passengers use Logan to connect to other flights and therefore are not accessing ground transportation.

**Consideration:** Williams Tunnel congestion and capacity of the Silver Line to serve Airport customers seeking a connection to the Red Line could impact share of airport trips served by Blue Line

Source: MassPort Annual Statistics (2010 and 2016) and Passenger Survey (2016)

# Current Red-Blue Trips

Trips connecting between Red and Blue Lines represent a small fraction of total trips using these lines.

- 2.6% (around 2,300) of average weekday trips destined for Red Line stations between Charles MGH and Alewife begin on the Blue Line (east of State) or connecting bus routes
- 4.3% (around 500) of average weekday trips destined for Aquarium (job hub) or Airport stations begin on the Red Line (north of Park Street) or connecting bus routes
- The MBTA may be serving trips in this corridor not captured by these numbers (trips completed or transfers being made by walking or biking) – fewer transfers and travel time savings may boost demand

Source: ODX Model, based on Fall 2016 MBTA data

# Travel Time Savings of Red-Blue Connector

The Red-Blue Connector Project will save riders an estimated 4 minutes in each direction.

- The connection from the Blue Line at Govt. Center to a Red Line train at Charles MGH during peak periods currently takes around 11 minutes when all service is operating as scheduled.
- The Red – Blue Connector would reduce travel time to 7 minutes (transfer time assumed at 2.5 minutes due to longer vertical and horizontal distances to make the transfer).

<i>Current Transfer</i>		<i>Proposed Transfer</i>	
Transfer BL to GL platform	1 min	BL trip from GC to Charles	2 min
Avg wait for Green Line	1.5 min	Transfer BL to RL platform	2.5 min
GL trip from GC to Park	2 min	Avg wait for Red Line	2.5 min
Transfer GL to RL platform	2 min		
Avg wait for Red Line	2.5 min		
RL trip from Park to Charles	2 min		
<b>Total Travel Time</b>		<b>11 min</b>	
		<b>7 min</b>	

# Next Steps

- FMCB Board Presentations:
  - 10/1: Blue Line Program Modernization
  - 10/15: Constructability and release of Reassessment of the Red-Blue Connector Study